

Claims:

1 1. A frequency-hopping wireless communication system, the
2 frequency-hopping wireless communication system using at least two different
3 bandwidth hops at frequency-hopping center frequencies, low bandwidth hops and
4 high bandwidth hop, wherein more center frequencies are available for use for the
5 low bandwidth hops than by the high bandwidth hops.

1 2. The frequency-hopping wireless communication system of Claim 1
2 wherein the high bandwidth signal defines a first bandwidth range and
3 wherein there is only one possible high bandwidth center frequency within the first
4 bandwidth range and multiple possible low bandwidth center frequencies within the
5 first bandwidth range.

1 3. The frequency-hopping wireless communication system of Claim 1
2 in which a pseudo-random sequence generator is provided at a transmitter and a
3 receiver.

1 4. The frequency-hopping wireless communication system of Claim 1
2 wherein the same pseudo-random sequence generator is used for both high and low
3 bandwidth signals.

1 5. The frequency-hopping wireless communication system of Claim 4
2 wherein a certain pseudo-random sequence generation value corresponds to
3 a different low bandwidth frequency center than high frequency bandwidth
4 center.

1 6. A frequency-hopping wireless communication system, the
2 frequency-hopping wireless communication system using at least two different

3 bandwidth signals at frequency-hopping center frequencies, low bandwidth hops
4 and high bandwidth hops, wherein a high bandwidth hop defines a first bandwidth
5 range and wherein there is only one possible high bandwidth center frequency
6 within the first bandwidth range and multiple possible low bandwidth center
7 frequencies within the first bandwidth range, the low frequency bandwidth hops at
8 the multiple possible low bandwidth center frequencies not extending out of the
9 first bandwidth range.

1 7. The frequency-hopping wireless communication system of Claim 6
2 wherein the high frequency bandwidth is an integer number of times larger than
3 the low bandwidth signal.

1 8. The frequency-hopping wireless communication system of Claim 6
2 wherein a pseudo-random sequence generator is provided at the transmitter and
3 receiver.

1 9. The frequency-hopping wireless communication system of Claim 8
2 wherein the sequence value which indicates one of the possible low bandwidth
3 center frequencies for a low bandwidth hop also indicates the one possible high
4 bandwidth center frequency for a high bandwidth hop.

1 10. The frequency-hopping wireless communication system of Claim 6
2 wherein there are multiple bandwidth ranges within the spread spectrum band,
3 each bandwidth range allowing one possible high bandwidth center frequency.